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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/919,365	07/30/2001	Zhi-Li Zhang	45621/FLC/F179	2533

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CHRISTIE, PARKER & HALE, LLP
PO BOX 7068
PASADENA, CA 91109-7068

EXAMINER

WALSH, JOHN B

ART UNIT PAPER NUMBER

2151

DATE MAILED: 07/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/919,365	Applicant(s) ZHANG ET AL.	
	Examiner John B. Walsh	Art Unit 2151	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 March 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-18 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. 6,590,867 to Ash et al.

As concerns claim 1, a method for allocating bandwidth within network domain by a network server operably coupled a network domain edge node, comprising: providing a database (column 1, lines 36-38) operably coupled to the network server, the database including path-level data comprising Quality of Service (column 5, line 18, column 2, line 14) information for paths within the network domain and link-level data (column 1, lines 36-38) for a links within the network domain; receiving by the network server from the network domain edge node a flow request (abstract, lines 1-4) for the path; and satisfying by the network server the flow request using the link-level data if the network server determines the network server cannot satisfy the flow request using the path-level data (column 5, lines 13-34).

As concerns claims 2 and 6, wherein the path-level data includes for each path unused bandwidth allocated to the path and a path state (column 2, lines 5-8), the method further comprising satisfying by the network server the flow request using the unused bandwidth if the

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requested path is not in a critical state and the requested path has enough unused bandwidth to satisfy the flow request (column 2, lines 5-8).

As concerns claims 3 and 7, wherein the link-level data includes for each link quotas (column 3, line 58) of bandwidth available to the link, the method further comprising allocating (column 3, line 22, column 3, lines 6-16) by the network server to each link along the requested path a quota of bandwidth from the quotas of bandwidth available to the link if the requested path does not have enough unused bandwidth to satisfy the flow request (column 5, lines 13-34).

As concerns claims 4 and 8, wherein the link-level data further includes for each link a link state and the path-level data further includes for each path a set of critical links (column 3, lines 58-59, particular links may be deemed critical) along the path, the method further comprising allocating (column 3, line 22, column 3, lines 6-16) by the network server bandwidth to each link (column 3, line 1, column 3, lines 10-12, column 5, lines 17-18) in the set critical links from unused bandwidth reclaimed from another path on each link.

As concerns claim 5, a method for allocating bandwidth within a network domain by a distributed network server, the distributed network server including a central network server and a plurality of edge network servers, comprising: providing a plurality of path-level databases (column 1, lines 36-38) operably coupled to the plurality of edge network servers, the path-level databases including path-level data (column 1, lines 36-38) comprising Quality of Service (column 5, line 18, column 2, line 14) state information for paths within the network domain; providing a link-level database (column 1, lines 36-38) operably coupled to the central network server, the link-level database including link-level data (column 1, lines 36-38) for links in the paths within the network domain receiving by the distributed network server from a network

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domain edge node operably coupled to an edge network server a flow request (abstract, lines 1-4) for a path within the network domain; and satisfying by the distributed network server the flow request using the link-level data if the network server determines the distributed network server cannot satisfy the flow request using the path-level data (column 5, lines 13-34).

As concern claim 9, the method of claim 7, the method further comprising rejecting by the edge network server the flow request if a link along the path does not have a quota bandwidth available to the link for satisfying the flow request (column 6, lines 12-13).

As concerns claim 10, a data processing system adapted allocate bandwidth within a network domain, comprising: a database (column 1, lines 36-38) including path-level data comprising Quality of Service information (column 5, line 18; column 2, line 14) and link-level data for a path within the network domain; a processor (inherent server has a processor); and a memory (inherent server has memory) operably coupled to the processor and having program instructions stored therein, the processor being operable execute the program instructions, the program instructions including: receiving from a network domain edge node a flow request (abstract, lines 1-4) for the path; and satisfying the flow request using the link-level data if the flow request cannot be satisfied using path-level data (column 5, lines 13-34).

As concerns claims 11 and 15, wherein the path-level data includes unused bandwidth allocated (column 2, lines 5-8) to the path and a path state, the program instructions further including satisfying the flow request using the unused bandwidth if the path is not in a critical state and the path has enough available unused bandwidth to satisfy the flow request (column 2, lines 5-8).

As concerns claims 12 and 16, wherein the link-level data further includes quotas of bandwidth available to a link (column 3, line 58), the program instructions further including allocating (column 3, line 22, column 3, lines 6-16) to each link along the path a quota of bandwidth from the quotas of bandwidth available to the link if the path does not have enough unused bandwidth to satisfy the flow request (column 5, lines 13-34).

As concerns claims 13 and 17, the data processing system of claim 12, wherein the link-level data further includes a link state and the path-level data further includes a set of critical links (column 3, lines 58-59, particular links may be deemed critical) along the path, the program instructions further including allocating (column 3, line 22, column 3, lines 6-16) bandwidth to each link (column 3, line 1, column 3, lines 10-12, column 5, lines 17-18) in the set of critical links from unused bandwidth reclaimed from another path on each link.

As concerns claim 14, a computer readable media embodying program instructions for execution by a computer, the program instructions adapting a computer to allocate bandwidth within a network domain, program instructions comprising: accessing a database (column 1, lines 36-38) including path-level data (column 1, lines 36-38) comprising path Quality of Service information (column 5, line 18; column 2, line 14) and link-level data (column 1, lines 36-38) comprising link Quality of Service (column 5, line 18, column 2, line 14) information for a path within the network domain; receiving from a network domain edge node a flow request (abstract, lines 1-4) for a path; and satisfying the flow request using the link-level data if the flow request cannot be satisfied using the path-level data (column 5, lines 13-34).

As concerns claim 18, a method for allocating bandwidth within a network domain by a bandwidth broker operably coupled to a network domain edge node, comprising: providing a

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network QoS state database (column 1, lines 36-38) operably coupled to the bandwidth broker, the network QoS state database including: unused bandwidth allocated to the path (column 2, lines 5-8); a set of critical links (column 3, lines 58-59; particular links may be deemed critical) along the path; and a path state (column 3, line 66); and link-level data (column 1, lines 36-38) for links along the path, including: quotas of bandwidth available to a link (column 3, line 58); and a link state (column 3, line 59); receiving by the bandwidth broker from the network domain edge node a flow request for the path (abstract, lines 1-4); satisfying by the network server the flow request using the unused bandwidth if the path is not in a critical state and the path has enough unused bandwidth to satisfy the flow request (column 5, lines 15-32); allocating by the network server to each link along the path a quota of bandwidth from the quotas of bandwidth available to the link if the path is not in a critical state and the path has enough unused bandwidth to satisfy the flow request (column 3, line 1, column 3, lines 10-12, column 5, lines 17-18); and allocating by the network server bandwidth to each link in the set of critical links from unused bandwidth reclaimed from a another path on each link if the path is in a critical state (column 5, lines 13-34, column 5, lines 51-55).

Response to Arguments

3. Applicant's arguments filed March 14, 2005 have been fully considered but they are not persuasive. The applicant argues that Ash does not disclose "a database including path-level data comprising QOS information and link-level data for a path within the network domain". Ash discloses storing the data in databases within the routers (column 1, lines 37-43; column 1, line 67-column 2, line 15) which pertains to QOS information or class of service, for user established cost metrics. The applicant also argues that Ash does not disclose "satisfying the flow request

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using the link-level data if the flow request cannot be satisfied using the path level data". Ash discloses satisfying a request using path level data, if this cannot be satisfied another path is selected and the link-level data of that path is used to satisfy the request (column 2, lines 1-16).

Conclusion

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John B. Walsh whose telephone number is 571-272-7063. The examiner can normally be reached on Monday-Friday from 6:30-4:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zarni Maung can be reached on 571-272-3939. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


John B. Walsh
Primary Examiner
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